World of Chemistry: A Matter of State

Watch video #5, *A Matter of State,* and answer the below questions. There are a number of good videos on the subjects we have discussed in class. You may want to watch other videos for review.

http://www.learner.org/resources/series61.html

1. The video states that states of matter may be changed. What is needed to make this possible?

2. What is the relationship between the temperature and pressure of a gas?

3. Describe, at the molecular level, how temperature affects the pressure of gas.

4. How does the collapsing can demonstration work? Draw diagrams of before, during, and after heating.

5. How is liquefied natural gas produced?

6. What are some uses of liquid nitrogen?

7. What is the chemical formula for liquid nitrogen?

8. Why does the process of perspiration cool a person?

9. Describe the element bromine in its 3 states.

10. What is the chemical formula for solid bromine?

11. What happens to the particles in bromine as it is cooled?

12. Using your textbook:
    a. Summarize the 3 main points of kinetic theory.

    b. Draw 3 diagrams representing gas, liquid, and solid at the atomic-molecular (particle) level.

    c. How does temperature affect the movement of particles?

    d. What is an elastic collision?